

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 9

In The Matter Of:

WESTINGHOUSE ELECTRIC CORPORATION

RESPONDENT

Proceeding Under Section 106(a) of the
Comprehensive Environmental Response,
Compensation, and Liability Act of 1980,
as amended (42 U.S.C. § 9606(a))

U.S. EPA
Docket No.93-05

ADMINISTRATIVE ORDER
FOR REMEDIAL DESIGN AND REMEDIAL ACTION

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I. INTRODUCTION AND JURISDICTION

1. This Administrative Order ("Order") is issued to Respondent, Westinghouse Electric Corporation ("Westinghouse"), by the United States Environmental Protection Agency ("EPA") under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2926, January 29, 1987), and was further delegated to EPA Regional Administrators on September 13, 1987 by EPA Delegation No. 14-14-B. Under EPA Delegation Number 14-14-B, the Regional Administrator for Region 9 re-delegated this authority (Regional Order 1290.42) to Division Directors.
2. This Order directs Westinghouse to perform the remedial design described in the Record of Decision ("ROD") for the Westinghouse Site ("Site"), dated October 16, 1991 and to implement the design by performing the remedial action. The ROD is provided as Attachment 1 hereto and is incorporated herein by this reference. A portion of the remedial design has already been performed by Westinghouse pursuant to the February 6, 1992 Administrative Consent Order for Remedial Design (U.S. EPA Docket No 92-08) (hereinafter "the AOC"). The AOC is hereby terminated as of the effective date of

this Order, with the following exception: all provisions of the AOC relevant to the reimbursement of EPA's Response Costs shall remain in effect for all Response Costs incurred prior to the effective date of this Order. All remaining remedial design tasks will be completed pursuant to this Order, rather than under the AOC.

3. The Director of the Hazardous Waste Management Division, EPA Region IX, has determined that there may be an imminent and substantial endangerment to the public health, welfare or the environment because of the release and threatened release of hazardous substances at or from the Site. This Order directs Westinghouse to undertake actions that EPA has determined to be necessary to protect the public health, welfare, and the environment at the Site.

4. This Order applies to the following person:

Westinghouse Electric Corporation
11 Stanwix Street
Pittsburgh, Pennsylvania 15222-1384

II. FINDINGS OF FACT

Site Description and Background

5. The Site includes all areas of the Westinghouse's Marine Division Sunnyvale Plant ("the Plant") contaminated by the contaminants of concern addressed in the ROD and all areas in which the contamination identified in the ROD comes to be

located. The Plant currently manufactures steam generators, marine propulsion systems, and missile launching systems for the U.S. Department of Defense. The Plant is located at 401 E. Hendy Avenue in the City of Sunnyvale, Santa Clara County, California and is situated on 75 acres of industrially developed land. The Plant is bounded by California Avenue to the north, Hendy Avenue to the south, North Sunnyvale Avenue to the west and North Fair Oaks Avenue to the east.

6. Westinghouse acquired the original plant property in 1947 and acquired additional property continuing to expand its facility until 1965. The Westinghouse Sunnyvale Plant initially manufactured products which included circuit breakers and transformers. During the mid-1950s, Westinghouse manufactured transformers containing Inerteen as a dielectric fluid. Inerteen was the Westinghouse trade name for an askarel consisting primarily of Aroclor 1260, a polychlorinated biphenyl ("PCB") and trichlorobenzene ("TCB"). An above-ground Inerteen storage tank and underground pipelines located near an emergency water supply reservoir for fire safety, Reservoir 2, were used to supply the manufacturing operations. Westinghouse also used Inerteen for weed control around the perimeter of the property and along railroad spurs on the property.

7. In 1964, the Marine Division was established at Sunnyvale and the facility was dedicated to designing, manufacturing, testing and servicing marine products. Manufacture of transformers and circuit-breakers was discontinued.
8. In 1981, Westinghouse initiated a study to determine the nature and extent of PCB in soils at the Site. Investigation results indicated the presence of PCB in shallow soils in several areas. Shallow soils in areas outside of the Reservoir 2 area, along the railroad spurs and fence lines, were remediated under Regional Water Quality Control Board ("RWQCB") Orders 84-63 and 85-94 in 1984 and 1985. The Reservoir 2 area was set apart for more extensive investigation, because leaks from the former Inerteen storage tank and pipelines presented a more complex problem in that PCB contamination extended through the vadose zone into the shallow aquifers. Other groundwater contaminants identified in the groundwater near Reservoir 2 were fuel hydrocarbons and related compounds (including benzene, toluene, ethylbenzene and xylene) that had leaked from nearby underground fuel storage tanks on the Westinghouse property.
9. In October 1984, pursuant to Section 105 of CERCLA, 42 U.S.C. §9605, the Westinghouse Superfund Site was proposed for listing on the Federal Superfund National Priorities

List ("NPL"), set forth at 40 C.F.R. Part 300, Appendix B. The listing was finalized in June 1986. From 1981 to 1987, the RWQCB was the lead agency for the Site. On December 18, 1987, EPA assumed the lead role for overseeing the remainder of the activities at the Site. An Administrative Order on Consent for the performance of a Remedial Investigation and Feasibility Study ("RI/FS") was signed by Westinghouse and the EPA on August 20, 1988.

10. The Remedial Investigation defined the extent of contamination sufficient to evaluate cleanup alternatives and to select a cleanup plan. Soils near the former Inerteen storage tank and supply pipelines are contaminated with PCB. Contaminants of concern include fuel compounds, Inerteen compounds and volatile organic compounds. A more complete description of the contaminants of concern is provided in the ROD.
11. The Remedial Investigation indicated that there are no current exposures occurring due to contact with any of the contaminants of concern at the Site. Risks associated with potential exposure to the contaminants of concern in soil and groundwater at the Site have been estimated in the ROD, Section 5.0, Summary of Site Risks.
12. Pursuant to section 117 of CERCLA, 42 U.S.C. § 9617, EPA

published notice of the completion of the FS and of the proposed plan for remedial action on June 1, 1991, and provided opportunity for public comment on the proposed remedial action.

13. The decision by EPA on the remedial action to be implemented at the Westinghouse Site is embodied in a final Record of Decision ("the ROD"), executed on October 16, 1991, on which the State has given its concurrence. The Record of Decision is attached to this Order as Attachment 1 and has been incorporated into this Order at paragraph 2 above. The Record of Decision is supported by an administrative record that contains the documents and information upon which EPA based the selection of the response action.

Enforcement History

14. On February 6, 1992, Westinghouse initiated the work for the remedial design for the selected remedy pursuant to an Administrative Consent Order for Remedial Design (U.S. EPA Docket No. 92-08, February 6, 1992). The Administrative Consent Order for Remedial Design is attached to this Order as Attachment 2.
15. In accordance with CERCLA Section 122, 42 U.S.C. §9622, EPA issued special notice to Westinghouse on March 31, 1992. Westinghouse's response was determined by EPA not to be a

good faith offer, because Westinghouse failed to provide a detailed response to EPA's proposed Scope of Work in a timely manner. Despite this, EPA decided to negotiate with Westinghouse for 60 days and, at the end of this time period, EPA granted Westinghouse's request for an extension of the negotiation period until July 14, 1992. Nevertheless, at the end of that time, Westinghouse declined to enter into the Consent Decree, offered by the United States, to perform the remedy selected in the ROD.

Endangerment to Human Health

16. As described in the ROD, the releases and the threat of releases at the Site may present an imminent and substantial endangerment to public health and the environment due to the contamination of soil and groundwater. If remedial action is not taken, local residents and the environment may be exposed to contaminated groundwater and soil at or from the Site.

III. CONCLUSIONS OF LAW AND DETERMINATIONS

17. The Westinghouse Site is a "facility" as defined in section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
18. Westinghouse is a "person" as defined in section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

19. Westinghouse is a "liable party" as defined in section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is subject to this Order under section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
20. The substances at the Site for which remedial action levels are set in the ROD are "hazardous substances" as defined in section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
21. There have been "releases" and the threat of "releases" of "hazardous substances" as defined in Section 101(22) of CERCLA, 42 U.S.C. §9601(22), into the environment, including into the soil and groundwater from the Site.
22. The past disposal and migration of hazardous substances from the Site and the continued migration of hazardous substances from the Site constitute "releases" as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
23. The potential for future migration of hazardous substances from the Site poses a threat of a "release" as defined in section 101(22) of CERCLA, 42 U.S.C. § 9601(22).
24. The release of one or more hazardous substances from the facility may present an imminent and substantial endangerment to the public health or the environment.

25. The contamination and endangerment at this Site constitute an indivisible injury. The remedial measures required by this Order, if performed in accordance with the requirements of this Order, are necessary to protect the public health, welfare, and the environment.
26. The remedial measures required by this Order are consistent with CERCLA and the NCP.

IV. NOTICE TO THE STATE

27. On August 17, 1993, prior to issuing this Order, EPA notified the State of California, Regional Water Quality Control Board, San Francisco Bay Region, of the California Environmental Protection Agency, that EPA would be issuing this Order.

V. ORDER

28. Based on the foregoing, Westinghouse is hereby ordered to comply with the following provisions, including but not limited to all attachments to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines in this Order, attached to this Order, or incorporated by reference into this Order. This Order includes but is not limited to the following requirements:

(1) Westinghouse is ordered to perform all elements of the

remedial design for the ROD which have not been completed pursuant to the AOC, in accordance with the Final Approved RD Workplan which was incorporated in that AOC. The Final Approved RD Workplan is provided as Attachment 4 hereto and is hereby incorporated by this reference;

(2) Westinghouse is required to perform the remedial action selected in the ROD; and

(3) Westinghouse is required to comply with all provisions of this Order, including but not limited to the requirements of the Scope of Work ("SOW"), provided as Attachment 3, and incorporated herein by this reference.

VI. DEFINITIONS

29. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in the statute or its implementing regulations.

Whenever terms listed below are used in this Order or in the documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as

amended, 42 U.S.C. §§ 9601 et seq.

- b. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.
- c. "EPA" shall mean the United States Environmental Protection Agency and any successor agencies or departments of the United States.
- d. "National Contingency Plan" or "NCP" shall mean the National Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments thereto.
- e. "Operation and Maintenance" or "O&M" shall mean all activities required under the Operation and Maintenance Plan either (1) developed by Westinghouse, as approved or modified by EPA, or (2) developed by EPA, pursuant to this Order and the SOW.
- f. "Paragraph" shall mean a portion of this Order identified by an arabic numeral.
- g. "Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations, identified in the ROD and SOW, that the Remedial Action and Work

required by this Order must attain and maintain.

- h. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site, signed on October 16, 1991, by the Regional Administrator, EPA Region 9, and all attachments thereto. The ROD is provided herein as Attachment 1, and has been incorporated by reference into this Order (see Paragraph 2).
- i. "Remedial Action" or "RA" shall mean those activities except for Operation and Maintenance, to be undertaken by Westinghouse to implement the final plans and specifications submitted by Westinghouse pursuant to the Final Approved Work Plan for Remedial Design, including any additional activities required under this Order.
- j. "Remedial Design" or "RD" shall mean those activities to be undertaken by Westinghouse to develop the final plans and specifications for the Remedial Action pursuant to the Final EPA Approved Work Plan for Remedial Design (originally Appendix A to the AOC, and provided as Attachment 4 hereto) and any additional Remedial Design activities required under this Order.
- k. "Remedial Design Work Plan" or "RD Work Plan" shall mean the Final Approved Work Plan for Remedial Design, originally Appendix A to the AOC and provided as Attachment 4 hereto, and any other revisions of that RD Work Plan required under this Order.

- l. "Response Costs" shall mean all costs, including direct costs, indirect costs, and accrued interest incurred by the United States to perform or support response actions at the Site. Response costs include but are not limited to the costs of overseeing the Work, such as the costs of reviewing or developing plans, reports and other items pursuant to this Order and costs associated with verifying the Work.
- m. "RWQCB" shall mean the Regional Water Quality Control Board, San Francisco Bay Region of the California Environmental Protection Agency.
- n. "Scope of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action and Operation and Maintenance at the Site, as set forth in Attachment 3 to this Order. The Scope of Work is incorporated into this Order and is an enforceable part of this Order.
- o. "Section" shall mean a portion of this Order identified by a roman numeral and includes one or more paragraphs.
- p. "Site" shall mean the Westinghouse Superfund Site located at and around 401 E. Hendy Avenue in Sunnyvale, Santa Clara county, California and depicted generally in Figures 1-10 of Appendix A of the ROD, including all areas in which contamination addressed in the ROD comes to be located.
- q. "State" shall mean the State of California.

- r. "United States" shall mean the United States of America.
- s. "Work" shall mean all activities Westinghouse is required to perform under this Order, including Remedial Design, Remedial Action, Operation and Maintenance, and any activities required to be undertaken pursuant to this Order.

VII. NOTICE OF INTENT TO COMPLY

30. Westinghouse shall provide, not later than five (5) days after the effective date of this Order, written notice to EPA's Remedial Project Manager ("RPM") stating whether Westinghouse will comply with the terms of this Order. If Westinghouse does not unequivocally commit to perform the Remedial Design, Remedial Action and other Work, as provided by this Order, Westinghouse shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Westinghouse's written notice shall describe, using facts that exist on or prior to the effective date of this Order, any "sufficient cause" defenses asserted by Westinghouse under sections 106(b) and 107(c)(3) of CERCLA, 42 U.S.C. §§9606(b) and 9607(c)(3). The absence of a response by EPA to the notice required by this paragraph shall not be deemed to be acceptance of, or agreement to, any of Westinghouse's assertions.

VIII. PARTIES BOUND

31. This Order applies to and is binding upon Westinghouse, its directors, officers, employees, agents, successors, and assigns. No change in the ownership, corporate status, or other control of Westinghouse, including, but not limited to, any transfer of assets or real or personal property by Westinghouse shall alter any of Westinghouse's responsibilities under this Order.
32. Westinghouse shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondent's assets, property rights, or stock are transferred to the prospective owner or successor. Westinghouse shall provide a copy of this Order to each contractor, subcontractor, laboratory or consultant retained to perform any Work under this Order, within five (5) days after the effective date of this Order or on the date such services are retained, whichever date occurs later. Westinghouse shall also provide a copy of this Order to each person representing Westinghouse with respect to the Site or the Work and shall condition all contracts and subcontracts entered into hereunder upon performance of the Work in conformity with the terms of this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to Westinghouse within the meaning of Section

107(b)(3) of CERCLA, 42 U.S.C. §9607(b)(3). Notwithstanding the terms of any contract, Westinghouse is responsible for compliance with this Order and for ensuring that its contractors, subcontractors and agents comply with this Order, and perform any Work in accordance with this Order.

33. Within five (5) days after the effective date of this Order, Westinghouse shall record a copy or copies of this Order in the appropriate governmental office where land ownership and transfer records are filed or recorded, and shall ensure that the recording of this Order is indexed to the titles of each and every property at the Site so as to provide notice to third parties of the issuance and terms of this Order with respect to those properties. Westinghouse shall, within fifteen (15) days after the effective date of this Order, send notice of such recording and indexing to EPA.

Not later than sixty (60) days prior to any transfer of any real property interest in any property included within the Site, Westinghouse shall submit a true and correct copy of the transfer documents to EPA and shall identify the transferee by name, principal business address and effective date of the transfer.

IX. PERFORMANCE OF THE WORK

34. Westinghouse shall cooperate with EPA in providing information regarding the Work to the public. As requested by EPA, Westinghouse shall participate in the preparation of such information for distribution to the public and in public meetings which may be held or sponsored by EPA to explain activities at or relating to the Site.
35. All aspects of the Work to be performed by Westinghouse pursuant to this Order shall be under the direction and supervision of a qualified project manager, the selection of which shall be subject to disapproval by EPA. Within fifteen (15) days after the effective date of this Order, Westinghouse shall notify EPA in writing of the name, title and qualifications of the project manager, including primary support entities and staff, proposed to be used in carrying out Work under this Order. If at any time Westinghouse proposes to use a different project manager, Westinghouse shall notify EPA and shall obtain approval from EPA before the new project manager performs any Work under this Order.
36. EPA will review Westinghouse's selection of a project manager according to the terms of this paragraph and Section XIV of this Order. If EPA disapproves of the selection of the project manager, Westinghouse shall submit to EPA within 30 days after receipt of EPA's disapproval of the project

manager previously selected, a list of project managers, including primary support entities and staff, that would be acceptable to Westinghouse. EPA will thereafter provide written notice to Westinghouse of the names of the project managers that are acceptable to EPA. Westinghouse may then select any approved project manager from that list and shall notify EPA of the name of the project manager selected within twenty-one (21) days of EPA's designation of approved project managers.

A. Remedial Design

37. Westinghouse shall continue the implementation of the RD Work Plan, which was begun under the AOC, according to the schedule in the approved RD Work Plan. Any violation of the approved RD Workplan shall be a violation of this Order.
38. Upon EPA approval, the Final Design is incorporated into this Order as a requirement of this Order and shall be an enforceable part of this Order.

B. Remedial Action

39. Not later than 30 days after EPA approves all deliverables required as part of the Final Design, Westinghouse shall submit a Remedial Action Work Plan (RA Work Plan) to EPA for review and approval. The RA Work Plan shall be developed in accordance with the ROD, and the attached SOW, and shall be

consistent with the Final Design as approved by EPA. The RA Work Plan shall include methodologies, plans and schedules for completion of at least the following: (1) selection of the remedial action contractor; (2) implementation of the CQAPP; (3) development and submission of the ground water monitoring plan; (4) identification of and satisfactory compliance with applicable permitting requirements; (5) implementation of the Operation and Maintenance Plan; (6) implementation of the Contingency Plan; and (7) development and submission of the Performance Standards assessment plan. The RA Work Plan shall also include a schedule for implementing all remedial action tasks identified in the SOW and shall identify the initial formulation of Westinghouse's Remedial Action Project Team (including the Supervising Contractor). Westinghouse shall also submit to EPA for review, not later than 30 days after EPA approves all deliverables required as part of the Final Design, a Health and Safety Plan for field activities required by the RA Work Plan. The Health and Safety Plan for field activities shall conform to applicable Occupational Safety and Health Administration and EPA requirements, including but not limited to the regulations at 54 Fed. Reg. 9294.

40. Upon approval by EPA, the RA Work Plan is incorporated into this Order as a requirement of this Order and shall be an enforceable part of this Order.

41. Upon approval of the RA Work Plan by EPA, Westinghouse shall implement the RA Work Plan according to the schedules in the RA Work Plan. Unless otherwise directed by EPA, Westinghouse shall not commence remedial action at the Site prior to approval of the RA Work Plan.
42. If Westinghouse seeks to retain a construction contractor to assist in the performance of the Remedial Action, then Westinghouse shall submit a copy of the contractor solicitation documents to EPA not later than five (5) days after publishing the solicitation documents.
43. Within 30 days after EPA approves the RA Work Plan Westinghouse shall notify EPA in writing of the name, title, and qualifications of any construction contractor proposed to be used in carrying out work under this Order. EPA shall thereafter provide written notice of the name(s) of the contractor(s) it approves, if any. Westinghouse may select any approved contractor from that list and shall notify EPA of the name of the contractor selected within twenty one (21) days of EPA's designation of approved contractors. If at any time Westinghouse proposes to change the construction contractor, Westinghouse shall notify EPA and shall obtain approval from EPA as provided in this paragraph, before the new construction contractor performs any work under this Order. If EPA disapproves of the selection of any

contractor as the construction contractor, Westinghouse shall submit a list of contractors that would be acceptable to them to EPA within thirty (30) days after receipt of EPA's disapproval of the contractor previously selected.

44. The Work performed by Westinghouse pursuant to this Order shall, at a minimum, achieve the Performance Standards specified in the Record of Decision and in the Statement of Work.
45. Notwithstanding any action by EPA, Westinghouse remains fully responsible for achievement of the Performance Standards in the Record of Decision and Statement of Work. Nothing in this Order, or in the SOW, or in the Remedial Design or Remedial Action Work Plans, or approval of any other submission, shall be deemed to constitute a warranty or representation of any kind by EPA that full performance of the Remedial Design or Remedial Action will achieve the Performance Standards set forth in the ROD and the SOW. Westinghouse's compliance with such approved documents does not foreclose EPA from seeking additional work to achieve the applicable performance standards.
46. Westinghouse shall, prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, provide written notification to the

appropriate state environmental official in the receiving state and to EPA's RPM of such shipment of hazardous substances. However, the notification of shipments shall not apply to any off-Site shipments when the total volume of all shipments from the Site to the State will not exceed ten (10) cubic yards.

a. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Westinghouse shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by Westinghouse following the award of the contract for Remedial Action construction. Westinghouse shall provide all relevant information, including information under the categories noted in paragraph 46.a above, on the off-Site shipments as soon as practicable after the award of the contract and before the hazardous

substances are actually shipped.

47. Within thirty (30) days after Westinghouse concludes that the Remedial Action has been fully performed, Westinghouse shall so notify EPA and shall schedule and conduct a pre-certification inspection to be attended by Westinghouse and EPA. The pre-certification inspection shall be followed by a written report submitted within thirty (30) days of the inspection by a registered professional engineer and Westinghouse's Project Coordinator certifying that the Remedial Action has been completed in full satisfaction of the requirements of this Order. If, after completion of the pre-certification inspection and receipt and review of the written report, EPA determines that the Remedial Action or any portion thereof has not been completed in accordance with this Order, EPA shall notify Westinghouse in writing of the activities that must be undertaken to complete the Remedial Action and shall set forth in the notice a schedule for performance of such activities. Westinghouse shall perform all activities described in the notice in accordance with the specifications and schedules established therein. If EPA concludes, following the initial or any subsequent certification of completion by Westinghouse that the Remedial Action has been fully performed in accordance with this Order, EPA may notify Westinghouse that the Remedial Action has been fully performed. EPA's notification shall

be based on present knowledge and Westinghouse's certification to EPA, and shall not limit EPA's right to perform periodic reviews pursuant to section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607.

48. Within thirty (30) days after Westinghouse concludes that all phases of the Work have been fully performed, that the Performance Standards have been attained, and that all Operation and Maintenance activities have been completed, Westinghouse shall submit to EPA a written report by a registered professional engineer certifying that the Work has been completed in full satisfaction of the requirements of this Order. EPA shall require such additional activities as may be necessary to complete the Work or EPA may, based upon present knowledge and Westinghouse's certification to EPA, issue written notification to Westinghouse that the Work has been completed, as appropriate, in accordance with the procedures set forth in Paragraph 47 for Westinghouse's certification of completion of the Remedial Action. EPA's notification shall not limit EPA's right to perform periodic reviews pursuant to section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607. Unless it becomes

technically practicable to meet the applicable and relevant and appropriate requirements for PCBs in the "source area" (as defined in the ROD), Westinghouse will be required to perform operation and maintenance in perpetuity.

X. FAILURE TO ATTAIN PERFORMANCE STANDARDS

49. In the event that EPA determines that additional response activities are necessary to meet applicable Performance Standards, EPA may notify Westinghouse that additional response actions are necessary.
50. Unless otherwise stated by EPA, within thirty (30) days of receipt of notice from EPA that additional response activities are necessary to meet any applicable Performance Standards, Westinghouse shall submit for approval by EPA a work plan for the additional response activities. The plan shall conform to the applicable requirements of sections IX, XVI, and XVII of this Order. Upon EPA's approval of the plan pursuant to Section XIV, Westinghouse shall implement the plan for additional response activities in accordance with the provisions and schedule contained therein.

XI. EPA PERIODIC REVIEW

51. Under section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, EPA may review the Site to assure that the Work performed pursuant to this Order adequately

protects human health and the environment. Until such time as EPA certifies completion of the Work, Westinghouse shall conduct the requisite studies, investigations, or other response actions as determined necessary by EPA in order to permit EPA to conduct the review under section 121(c) of CERCLA. As a result of any review performed under this paragraph, Westinghouse may be required to perform additional Work or to modify Work previously performed.

XII. ADDITIONAL RESPONSE ACTIONS

52. EPA may determine that in addition to the Work identified in this Order and attachments to this Order, additional response activities may be necessary to protect human health and the environment. If EPA determines that additional response activities are necessary, EPA may require Westinghouse to submit a work plan for additional response activities. EPA may also require Westinghouse to modify any plan, design, or other deliverable required by this Order, including any approved modifications.
53. Not later than thirty (30) days after receiving EPA's notice that additional response activities are required pursuant to this Section, Westinghouse shall submit a work plan for the response activities to EPA for review and approval. Upon approval by EPA, the work plan is incorporated into this Order as a requirement of this Order and shall be an

enforceable part of this Order. Upon approval of the work plan by EPA, Westinghouse shall implement the work plan according to the standards, specifications, and schedule in the approved work plan. Westinghouse shall notify EPA of its intent to perform such additional response activities within seven (7) days after receipt of EPA's request for additional response activities.

XIII. ENDANGERMENT AND EMERGENCY RESPONSE

54. In the event of any action or occurrence during the performance of the Work which causes or threatens to cause a release of hazardous substances or may present an immediate threat to public health or welfare or the environment, Westinghouse shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify EPA's Remedial Project Manager ("RPM") or, if the RPM is unavailable, EPA's Alternate RPM. If neither of these persons is available Westinghouse shall notify the EPA Emergency Response Unit, Region 9. Westinghouse shall take such actions in consultation with EPA's RPM or other available authorized EPA officer and in accordance with all applicable provisions of this Order, including but not limited to the Health and Safety Plan and the Contingency Plans. In the event that Westinghouse fails to take appropriate response action as required by this Section, and EPA takes that action instead,

Westinghouse shall reimburse EPA for all costs of the response action not inconsistent with the NCP pursuant to Section XXIV (Reimbursement of Response Costs).

55. Nothing in the preceding Paragraph shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XIV. EPA REVIEW OF SUBMISSIONS

56. After review of any deliverable, plan, report or other item which is required to be submitted for review and approval pursuant to this Order, EPA may: (a) approve the submission; (b) approve the submission with modifications; (c) disapprove the submission and direct Westinghouse to re-submit the document after incorporating EPA's comments; or (d) disapprove the submission and assume responsibility for performing all or any part of the response action. As used in this Order, the terms "approval by EPA," "EPA approval," or a similar term means the action described in paragraphs (a) or (b) of this paragraph.
57. In the event of approval or approval with modifications by EPA, Westinghouse shall proceed to take any action required

by the plan, report, or other item, as approved or modified by EPA.

58. Upon receipt of a notice of disapproval or a request for a modification, Westinghouse shall, within twenty-one (21) days or such longer time as specified by EPA in its notice of disapproval or request for modification, correct the deficiencies and resubmit the plan, report, or other item for approval. Notwithstanding the notice of disapproval, or approval with modifications, Westinghouse shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission.

59. If any submission is not approved by EPA, Westinghouse shall be deemed to be in violation of this Order.

XV. PROGRESS REPORTS

60. In addition to the other deliverables set forth in this Order, including those required in the SOW, Westinghouse shall provide monthly progress reports to EPA with respect to actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the 15th day of each month following the effective date of this Order. Respondent's obligation to submit progress reports continues until EPA gives Westinghouse written notice under paragraph 48. At a minimum these progress reports shall:

(1) describe the actions which have been taken to comply with this Order during the prior month; (2) include all results of sampling and tests and all other data received by Westinghouse and not previously submitted to EPA; (3) describe all work planned for the next three months with schedules relating such work to the overall project schedule for RD/RA completion; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XVI. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

61. Westinghouse shall use the quality assurance, quality control, and chain of custody procedures described in the "EPA NEIC Policies and Procedures Manual," May 1978, revised May 1986, EPA-330/9-78-001-R, EPA's "Guidelines and Specifications for Preparing Quality Assurance Program Documentation," June 1, 1987, EPA's "Data Quality Objective Guidance," (EPA/540/G87/003 and 004) and any amendments to these documents, while conducting all sample collection and analysis activities required herein by any plan. To provide quality assurance and maintain quality control, Westinghouse shall:
- a. Use only laboratories which have a documented Quality Assurance Program that complies with EPA guidance document QAMS-005/80.
 - b. Ensure that the laboratory used by Westinghouse for analyses, performs according to a method or methods

deemed satisfactory to EPA and submits all protocols to be used for analyses to EPA at least 30 days before beginning analysis.

- c. Ensure that EPA personnel and EPA's authorized representatives are allowed access to the laboratory and personnel utilized by the Westinghouse for analyses.

62. Westinghouse shall notify EPA not less than fourteen (14) days in advance of any sample collection activity. At the request of EPA, Westinghouse shall allow split or duplicate samples to be taken by EPA or its authorized representatives, of any samples collected by Westinghouse with regard to the Site or pursuant to the implementation of this Order. In addition, EPA shall have the right to take any additional samples that EPA deems necessary.

XVII. COMPLIANCE WITH APPLICABLE LAWS

- 63. All activities by Westinghouse pursuant to this Order shall be performed in accordance with the requirements of all Federal and state laws and regulations. EPA has determined that the activities contemplated by this Order are consistent with the National Contingency Plan (NCP).
- 64. Except as provided in section 121(e) of CERCLA and the NCP, no permit shall be required for any portion of the Work conducted entirely on-Site. Where any portion of the Work requires a Federal or state permit or approval, Westinghouse shall submit timely applications and take all other actions

necessary to obtain and to comply with all such permits or approvals.

65. This Order is not, and shall not be construed to be, a permit issued pursuant to any Federal or state statute or regulation.
66. All materials removed from the Site shall be disposed of or treated at a facility approved by EPA's RPM and in accordance with section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3); with the U.S. EPA "Revised Off-Site policy," OSWER Directive 9834.11, November 13, 1987; and with all other applicable Federal, state, and local requirements.

XVIII. REMEDIAL PROJECT MANAGER

67. All communications, whether written or oral, from Westinghouse to EPA shall be directed to EPA's Remedial Project Manager or Alternate Remedial Project Manager. Westinghouse shall submit to EPA three copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order, and shall send these documents by overnight mail.

EPA's Remedial Project Manager is:

Rosemarie Caraway or
Remedial Project Manager Westinghouse Superfund Site
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2235

EPA's Alternate Remedial Project Manager is:

Kelly McCarty or
Alternate Remedial Project Manager
Westinghouse Superfund Site
U.S. Environmental Protection Agency Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2236

68. EPA has the unreviewable right to change its Remedial Project Manager or Alternate Remedial Project Manager. If EPA changes its Remedial Project Manager or Alternate Remedial Project Manager, EPA will inform Westinghouse in writing of the name, address, and telephone number of the new Remedial Project Manager or Alternate Remedial Project Manager.
69. EPA's RPM and Alternate RPM shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. EPA's RPM or Alternate RPM shall have authority, consistent with the National Contingency Plan, to halt any work required by this Order, and to take any necessary response action.
70. Within ten (10) days after the effective date of this Order, Westinghouse shall designate a Project Coordinator and shall submit the name, address, and telephone number of the Project Coordinator to EPA for review and approval.

Westinghouse's Project Coordinator shall be responsible for overseeing Westinghouse's implementation of this Order. If Westinghouse wishes to change its Project Coordinator, Westinghouse shall provide written notice to EPA, five (5) days prior to changing the Project Coordinator, of the name and qualifications of the new Project Coordinator. Westinghouse's selection of a Project Coordinator shall be subject to EPA approval.

XIX. ACCESS TO PORTIONS OF SITE NOT OWNED BY WESTINGHOUSE

71. If the Site, the off-Site area that is to be used for access, property where documents required to be prepared or maintained by this Order are located, or other property subject to or affected by the clean up, is owned in whole or in part by parties other than Westinghouse, Westinghouse shall obtain, or use its best efforts to obtain, site access agreements from the present owner(s) within 45 days of the effective date of this Order. Such agreements shall provide access for EPA, its contractors and oversight officials, the state and its contractors, and Westinghouse or Westinghouse authorized representatives and contractors, and such agreements shall specify that Westinghouse is not EPA's representative with respect to liability associated with Site activities. Westinghouse shall save and hold harmless the United States and its officials, agents, employees, contractors, subcontractors, or representatives for or from

any and all claims or causes of action or other costs incurred by the United States including but not limited to attorneys fees and other expenses of litigation and settlement arising from or on account of acts or omissions of Westinghouse, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Order, including any claims arising from any designation of Westinghouse as EPA's authorized representative(s) under section 104(e) of CERCLA. Copies of such agreements shall be provided to EPA prior to Westinghouse's initiation of field activities.

Westinghouse's best efforts shall include providing reasonable compensation to any off-Site property owner. If access agreements are not obtained within the time referenced above, Westinghouse shall immediately notify EPA of its failure to obtain access. Subject to the United States' non-reviewable discretion, EPA may use its legal authorities to obtain access for Westinghouse, may perform those response actions with EPA contractors at the property in question, or may terminate the Order if Westinghouse cannot obtain access agreements. If EPA performs those tasks or activities with contractors and does not terminate the Order, Westinghouse shall perform all other activities not requiring access to that property, and shall reimburse EPA, pursuant to Section XXIV (Reimbursement of Response

Costs) of this Order, for all costs incurred in performing such activities. Westinghouse shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables. Westinghouse shall reimburse EPA, pursuant to Section XXIV (Reimbursement of Response Costs) of this Order, for all response costs (including attorney fees) incurred by the United States to obtain access for Westinghouse.

XX. SITE ACCESS AND DATA/DOCUMENT AVAILABILITY

72. Westinghouse shall allow EPA and its authorized representatives and contractors to enter and freely move about all property at the Site and off-Site areas subject to or affected by the work under this Order or where documents required to be prepared or maintained by this Order are located; for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Westinghouse and its representatives or contractors pursuant to this Order; reviewing the progress of Westinghouse in carrying out the terms of this Order; conducting tests as EPA or its authorized representatives or contractors deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to EPA by Westinghouse. Westinghouse shall allow EPA and its authorized representatives to enter the Site, to inspect and

copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Order. Nothing herein shall be interpreted as limiting or affecting EPA's right of entry or inspection authority under Federal law.

73. Westinghouse may assert a claim of business confidentiality covering part or all of the information submitted to EPA pursuant to the terms of this Order under 40 C.F.R. §2.203, provided such claim is not inconsistent with section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7) or other provisions of law. This claim shall be asserted in the manner described by 40 C.F.R. §2.203(b) and substantiated by Westinghouse at the time the claim is made. Information determined to be confidential by EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA or the state without further notice to Westinghouse. Westinghouse shall not assert confidentiality claims with respect to any data related to Site conditions, sampling, or monitoring.
74. Westinghouse shall maintain for the period during which this Order is in effect, an index of documents that Westinghouse claims contain confidential business information. The index shall contain, for each document, the date, author,

addressee, and subject of the document. Upon written request from EPA, Westinghouse shall submit a copy of the index to EPA.

XXI. RECORD PRESERVATION

75. Westinghouse shall provide to EPA upon request, copies of all documents and information within its possession and/or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Order, including but not limited to sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Westinghouse shall also make available to EPA for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.
76. Until ten (10) years after EPA provides notice of completion of the Work pursuant to this Order, Westinghouse shall preserve and retain all records and documents in its possession or control, including the documents in the possession or control of its contractors and agents on and after the effective date of this Order that relate in any manner to the Site. At the conclusion of this document retention period, Westinghouse shall notify the United

States at least ninety (90) calendar days prior to the destruction of any such records or documents, and upon request by the United States, Westinghouse shall deliver any such records or documents to EPA.

77. Until ten (10) years after EPA provides notice of completion of the Work, pursuant to this Order, Westinghouse shall preserve, and shall instruct its contractors and agents to preserve, all documents, records, and information of whatever kind, nature or description relating to the performance of the Work. Upon the conclusion of this document retention period, Westinghouse shall notify the United States at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of the United States, Westinghouse shall deliver all such documents, records and information to EPA.
78. Within 30 days after the effective date of this Order, Westinghouse shall submit a written certification to EPA's RPM that it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to their potential liability with regard to the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site. Westinghouse shall not dispose of any such documents without prior approval by EPA.

Westinghouse shall, upon EPA's request and at no cost to EPA, deliver the documents or copies of the documents to EPA.

XXII. DELAY IN PERFORMANCE

79. Any delay in performance of this Order that, in EPA's judgment, is not properly justified by Westinghouse under the terms of this paragraph shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Westinghouse's obligations to fully perform all obligations under the terms and conditions of this Order.
80. Westinghouse shall notify EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to EPA's RPM or Alternate RPM within forty eight (48) hours after Westinghouse first knew or should have known that a delay might occur. Westinghouse shall adopt all reasonable measures to avoid or minimize any such delay. Within five (5) business days after notifying EPA by telephone, Westinghouse shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Westinghouse should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the

measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

XXIII. ASSURANCE OF ABILITY TO COMPLETE WORK

81. Westinghouse shall demonstrate its ability to complete the Work required by this Order and to pay all claims that arise from the performance of the Work by obtaining and presenting to EPA within thirty (30) days after the effective date of this Order, one of the following: (1) a performance bond; (2) a letter of credit; (3) a guarantee by a third party; or (4) internal financial information to allow EPA to determine that Westinghouse has sufficient assets available to perform the Work. Westinghouse shall demonstrate financial assurance in an amount no less than the estimate of cost for the remedial design and remedial action contained in the ROD for the Site. If Westinghouse seeks to demonstrate ability to complete the remedial action by means of internal financial information, or by guarantee of a third party, they shall re-submit such information annually, on the anniversary of the effective date of this Order. If EPA determines that such financial information is inadequate, Westinghouse shall, within thirty (30) days after receipt of EPA's notice of determination, obtain and present to EPA for approval one of the other three forms of financial assurance

listed above.

82. At least seven (7) days prior to commencing any work at the Site pursuant to this Order, Westinghouse shall submit to EPA a certification that Westinghouse or its contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Westinghouse pursuant to this Order. Westinghouse shall ensure that such insurance or indemnification is maintained for the duration of the Work required by this Order.

XXIV. REIMBURSEMENT OF RESPONSE COSTS

83. Westinghouse shall reimburse EPA, upon written demand, for all response costs incurred by the United States in overseeing Westinghouse's implementation of the requirements of this Order or in performing any response action which Westinghouse fails to perform in compliance with this Order. EPA may submit to Westinghouse on a periodic basis an accounting of all response costs incurred by the United States with respect to this Order. EPA's certified Agency Financial Management System summary data (SPUR Reports), or such other summary as certified by EPA, shall serve as basis for payment demands.

84. Westinghouse shall, within thirty (30) days of receipt of each EPA accounting, remit a certified or cashier's check for the amount of those costs. Interest shall accrue from the later of the date that payment of a specified amount is demanded in writing or the date of the expenditure. The interest rate is the rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 C.F.R. § 102.13.

85. Checks shall be made payable to the Hazardous Substances Superfund and shall include the name of the Site, the Site identification number, the account number and the title of this Order. Checks shall be forwarded to:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 360863M
Pittsburgh, PA 15251

86. Westinghouse shall send copies of each transmittal letter and check to the EPA's RPM.

XXV. UNITED STATES NOT LIABLE

87. The United States, by issuance of this Order, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Westinghouse, or its directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order. Neither

EPA nor the United States may be deemed to be a party to any contract entered into by Westinghouse or its directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Order.

XXVI. ENFORCEMENT AND RESERVATIONS

88. EPA reserves the right to bring an action against Westinghouse under section 107 of CERCLA, 42 U.S.C. §9607, for recovery of any response costs incurred by the United States related to this Order and not reimbursed by Westinghouse. This reservation shall include but not be limited to past costs, direct costs, indirect costs, the costs of oversight, the costs of compiling the cost documentation to support the oversight cost demand, as well as accrued interest as provided in section 107 (a) of CERCLA.
89. Notwithstanding any other provision of this Order, at any time during the response action, EPA may perform its own studies, complete the response action (or any portion of the response action) as provided in CERCLA and the NCP, and seek reimbursement from Westinghouse for its costs, or seek any other appropriate relief.
90. Nothing in this Order shall preclude EPA from taking any

additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional remedial or removal actions as EPA may deem necessary, or from requiring Westinghouse in the future to perform additional activities pursuant to CERCLA, 42 U.S.C. §9606(a), et seq., or any other applicable law. Such additional activities shall include, but shall not be limited to, remedial action in addition to that required by the ROD, to achieve applicable and relevant and appropriate levels of PCBs in the "source area" (as defined in the ROD), if the achievement of such clean up levels becomes technically practicable. Westinghouse shall be liable under CERCLA section 107(a), 42 U.S.C. §9607(a), for the costs of any such additional actions.

91. Notwithstanding any provision of this Order, the United States hereby retains all of its information gathering, inspection and enforcement authorities and rights under CERCLA, RCRA and any other applicable statutes or regulations.
92. Westinghouse shall be subject to civil penalties under section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than \$25,000 for each day in which Westinghouse willfully violates, or fails or refuses to comply with this Order without sufficient cause. In addition, failure to properly

provide response action under this Order, or any portion hereof, without sufficient cause, may result in liability under section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times the amount of any costs incurred by the Fund as a result of such failure to take proper action.

93. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person for any liability it may have arising out of or relating in any way to the Site.
94. If a court issues an order that invalidates any provision of this Order or finds that Westinghouse has sufficient cause not to comply with one or more provisions of this Order, Westinghouse shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XXVII. ADMINISTRATIVE RECORD

95. Upon request by EPA, Westinghouse must submit to EPA all documents related to the selection of the response action for possible inclusion in the administrative record file.

XXVIII. EFFECTIVE DATE AND COMPUTATION OF TIME

96. This Order shall be effective thirty (30) days after the Order is signed by the Director of the Hazardous Waste Management Division. All times for performance of ordered activities shall be calculated from this effective date.

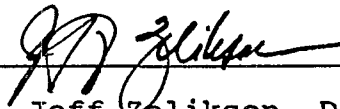
XXIX. OPPORTUNITY TO CONFER

97. Westinghouse may, within ten (10) days after the date this Order is signed, request a conference with EPA's RPM and attorney to discuss this Order. If requested, the conference shall occur on October 8, 1993 at EPA Region 9, 75 Hawthorne Street, San Francisco, CA 94105.
98. The purpose and scope of the conference shall be limited to issues involving the implementation of the response actions required by this Order and the extent to which Westinghouse intends to comply with this Order. This conference is not an evidentiary hearing, and does not constitute a proceeding to challenge this Order. It does not give Westinghouse a right to seek review of this Order, or to seek resolution of potential liability, and no official stenographic record of the conference will be made. At any conference held pursuant to Westinghouse's request, Westinghouse may appear in person or by an attorney or other representative.

99. Requests for a conference must be by telephone followed by written confirmation sent via facsimile to Rosemarie Caraway (415) 744-2180 (confirmation number (415) 744-2235).

So Ordered, this 29th day of September, 1993

BY: _____



Jeff Zelikson, Director
U. S. Environmental Protection Agency
Hazardous Waste Management Division

ATTACHMENT 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

SCOPE OF WORK
FOR
REMEDIAL DESIGN AND REMEDIAL ACTION
WESTINGHOUSE SUPERFUND SITE
SUNNYVALE, CALIFORNIA

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ATTACHMENT 3

SCOPE OF WORK FOR REMEDIAL DESIGN AND REMEDIAL ACTION WESTINGHOUSE SUPERFUND SITE SUNNYVALE, CALIFORNIA

I. PURPOSE

The purpose of this Scope of Work ("SOW") for the Westinghouse Superfund Site ("the Site") is to complete remedial design and to fully implement the remedial actions selected in the Record of Decision ("ROD") for the Site, which was signed by the Regional Administrator on October 16, 1991. The remedial design has been partially completed pursuant to the February 6, 1992 Administrative Order on Consent ("AOC") for Remedial Design ("RD"). In performing this remedial design and remedial action work, Westinghouse must comply with the ROD, any applicable guidance including any provided by EPA, and this Scope of Work ("SOW") for Remedial Design and Remedial Action ("RA"). The Final Remedial Design Workplan provided as Attachment³₁ to the Unilateral Administrative Order Docket No. 93-05 ("UAO") to which it is appended, shall be followed in implementing, and submitting deliverables for the Remedial Action at the

Westinghouse Superfund Site.

II. DESCRIPTION OF THE REMEDIAL ACTION

Westinghouse shall design and implement the Remedial Action selected in the ROD to meet the performance standards and specifications set forth in the ROD, The Remedial Design Workplan, and this SOW. Performance standards shall include groundwater and soil cleanup standards, and other substantive requirements, criteria and limitations including all Applicable or Relevant and Appropriate Requirements (ARARs) set forth in the ROD and this SOW. The performance standards and specifications of the major components of the remedial action for the Westinghouse Superfund Site which shall be designed and implemented by Westinghouse are as follows:

A. Installation of a Groundwater Extraction, Treatment and Monitoring System

Westinghouse shall design, construct, operate, and maintain a groundwater extraction, treatment and monitoring system that will achieve the following standards:

1. Containment of Contaminant Migration in Groundwater

Westinghouse shall design and implement a groundwater extraction system that will prevent further migration of contaminants in the affected aquifers by using extraction to achieve gradient control. The system must achieve permanent containment of the source area where dense non-aqueous phase liquids have been detected ("groundwater source area") such that aqueous phase contaminants will not migrate laterally or vertically from this source area. This area is defined more specifically in Section 6.2.2.2 of the Record of Decision. Additionally, until cleanup standards have been achieved, Westinghouse shall contain the contaminant plume outside of the groundwater source area in the affected aquifers, such that contaminant migration at levels above the cleanup standards will not occur either horizontally or vertically.

2. Restoration of Groundwater to Cleanup Standards

Westinghouse shall restore groundwater throughout the affected aquifers, using extraction, to the groundwater cleanup standards selected in the ROD. These cleanup standards are shown in Table 1 attached hereto.

3. Treatment of Extracted Groundwater

Westinghouse shall design, construct, operate and maintain a treatment system that will treat extracted groundwater to meet all applicable or relevant and appropriate requirements ("ARARS") identified in the Record of Decision for discharge.

The process steps for treatment of extracted groundwater will be selected during the design phase based on treatability study results. The groundwater treatment system must be designed and operated to effectively remove PCB, VOCs and petroleum hydrocarbons (gasoline, diesel, and related compounds) to the required discharge limits. The ROD requires that all recovered contaminants must be treated to permanently reduce the toxicity, mobility and volume of those contaminants. Examples of applicable destruction technologies are incineration of membranes and/or the carbon used in filtration of extracted groundwater, or the use of ultraviolet/chemical oxidation as a component of the treatment process.

4. Discharge Requirements for Extracted and Treated Groundwater

Following treatment of the extracted groundwater to meet all ARARs identified for discharge (NPDES-derived

criteria), Westinghouse shall discharge the treated effluent to the onsite storm sewer, unless EPA approves an alternative.

5. Performance Monitoring of Extraction System

Westinghouse shall implement a groundwater monitoring program as identified in the RD Work Plan and in this SOW. The groundwater monitoring program shall be designed to provide sufficient data with which to evaluate the effectiveness of the extraction system in capturing the horizontal and vertical extent of the contaminant plumes, reducing contaminant levels in the affected aquifers to the cleanup standards, and in permanently containing aqueous phase contamination in the groundwater source area. EPA may require adjustments to the groundwater extraction system as warranted by the performance monitoring data collected during operation. Examples of adjustments which may be required by EPA are additional groundwater extraction wells and/or different pumping rates.

The points of compliance that define the groundwater source area are described in Section 6.2.2.2 of the October 16, 1991 ROD. They consist of monitoring wells at the perimeter of the groundwater source area.

Cleanup standards must be achieved in these perimeter wells before performance standards will be deemed met. A technical impracticability waiver of the requirement to meet the proposed maximum contaminant level ("MCL") for polychlorinated biphenyls ("PCB") in the groundwater source area has been invoked in the ROD and permanent containment and monitoring of this area is required.

B. Soil Removal and Treatment

1. Removal

Westinghouse shall remove all PCB-contaminated soil containing greater than 25 parts per million PCB to a depth of eight feet.

2. Offsite Incineration

Westinghouse shall incinerate excavated soils offsite at a federally permitted facility.

C. Institutional Controls

Westinghouse shall employ institutional controls, such as land use restrictions to control the following activities in the areas where contamination will remain on the Westinghouse property:

- o Well construction (for water supply purposes) in groundwater source area as defined in Section 6.2.2.2 of the ROD shall be restricted.

o The selected remedy requires the removal of the upper eight feet of a vertical column of soil containing PCB above 25 ppm (See B.1. above). After the soil remediation is completed, excavation shall be restricted in the areas that currently contain soil contamination above 25 ppm PCB in accordance with the following restrictions:

- (1) restrictions that prevent any excavation in the contaminated areas that will remain below the eight-foot depth are required, and
- (2) once the upper eight feet of contaminated soil has been removed, excavation, other than temporary subsurface work in the upper eight feet of clean fill shall be restricted, and complete restoration of any disturbed fill or the asphalt cover, once any such temporary work is completed, shall be required.

Such Restrictions shall be contained in each and all deeds, leases, and conveyances of any type of any portion of the Property. Such Restrictions shall include all of the following language: (1) No wells shall be drilled on the Property without the express prior written approval of EPA; (2) Any person acquiring ownership or possession of the Property, or any portion thereof, shall provide, within 30 days of any such purchase or

tenancy, written notice of the purchase or tenancy to EPA at 75 Hawthorne Street, H-6-3, San Francisco, CA 94105. (3) the restrictions shall remain in force until all groundwater cleanup standards have been achieved, as determined by EPA; (4) the deed restrictions shall be recorded in the Official Records of the County of Santa Clara, State of California no later than 45 days after receipt of this Unilateral Order and SOW; and (5) the form and content of the restrictive easement shall be subject to the prior written approval of EPA.

D. Notification

Westinghouse shall notify EPA of any future intention to cease operations in, abandon, demolish, or perform construction in (including partial demolition or construction) Building 21 (see Facility map, Figure 1). Westinghouse shall provide this notification at least ninety (90) days in advance of taking any action described above.

III. IMPLEMENTATION OF REMEDIAL ACTION

Remedial Design has been initiated by Westinghouse under the February 6, 1992 Administrative Order on Consent ("AOC") for Remedial Design. Completion of the Remedial Design shall occur under the UAO. The Final Remedial Design is due to EPA on

December 1, 1993. Once the Final Remedial Design has been approved by EPA, Westinghouse shall conduct the following tasks in implementing the Remedial Action on the schedule specified for each task:

Task 1 Progress Reporting

Westinghouse shall submit progress reports summarizing the status of compliance with the provisions of the UAO and this SOW on a monthly basis until the groundwater and soil remedial actions at the site are completed. Monthly reports are due in the EPA office on the 15th of each month. Once all remedial action activities are completed Westinghouse shall submit progress reports quarterly according to the schedule below.

Quarter:	<u>First</u>	<u>Second</u>	<u>Third</u>	<u>Fourth</u>
Period:	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Due Date:	Jan 31	Apr 30	Jul 31	Oct 31

The monthly or quarterly report shall include the following:

- i. A summary of work completed since the previous monthly or quarterly report, and work projected to be completed by the time of the next monthly or quarterly report,
- ii. Appropriately scaled and labeled maps showing the location of all monitoring wells, extraction

wells, and existing structures,

- iii. Updated water table and piezometric surface maps for all affected water bearing zones, and isoconcentration maps for key contaminants in all affected water bearing zones,
- iv. A summary tabulation of all groundwater levels, non-aqueous phase liquid ("NAPL") measurements including volumes of NAPL removed, and chemical analysis results for monitoring wells as specified in the revised Field Sampling Plan,
- v. A summary tabulation of volume of extracted groundwater,
- vi. An estimate of volume or mass of contaminants removed from groundwater in the month or quarter and a cumulative tabulation of the total volume or mass of contaminant removed (total and lbs/day),
- vii. Identification of potential problems which will cause or threaten to cause noncompliance with the UAO and what actions are being taken or planned to prevent these obstacles from resulting in noncompliance with the UAO, and
- viii. In the event of noncompliance with the provisions of the UAO, the report shall include written explanation of the events which led to the noncompliance and proposed actions and schedule to

achieve compliance.

Task 2 Institutional Controls

a. Proposed Controls - Westinghouse shall submit an Institutional Controls Work Plan for EPA's approval describing the actions to be taken by Westinghouse in restricting the activities outlined in Section II.C. of this SOW. The Institutional Controls Work Plan shall include a schedule for implementation of these actions.

COMPLETION DATE: The proposed Institutional Controls Work Plan shall be due within 60 days from the effective date of the UAO.

b. Finalize Institutional Controls Work Plan - Westinghouse shall finalize the Institutional Controls Work Plan incorporating EPA's comments.

COMPLETION DATE: The final Institutional Controls Work Plan shall be due within thirty (30) days after Westinghouse's receipt of EPA's comments to the proposed Work Plan.

c. Controls Implemented - Following EPA approval, Westinghouse shall implement the Institutional Controls Work Plan in accordance with the approved schedule. Westinghouse shall also submit a report documenting

that the proposed and approved controls have been implemented.

COMPLETION DATE: The report documenting completion of Institutional Controls Work Plan tasks shall be due within thirty (30) days from completion of the activities covered by the Institutional Controls Work Plan in accordance with its schedule.

Task 3 Health and Safety Plan

Westinghouse shall submit a Health and Safety Plan consistent with EPA guidance that shall address all response activities planned at the Site during the remedial action and all long term operation and maintenance phases of the project.

COMPLETION DATE: The Health and Safety Plan shall be due within (30) days of EPA's approval of the Final RD Report.

Task 4 Contingency Plan [Stand alone or in H & S]

Westinghouse shall submit a Contingency Plan describing procedures to be used in the event of an accident or emergency at the site. The Contingency Plan shall include, at a minimum, the following:

1. Name of the person or entity responsible for

notifying appropriate medical personnel and local emergency squads in the event of an emergency incident.

2. Plan and date(s) for meeting(s) with the local community, including local, State and Federal agencies involved in the cleanup, as well as local emergency squads and hospitals.
3. First aid medical information.
4. Air Monitoring Plan.
5. Spill Prevention, Control, and Countermeasures (SPCC) Plan (if applicable), as specified in 40 CFR Part 109, describing measures to prevent and contingency plans for potential spills and discharges from materials handling and transportation

COMPLETION DATE: The draft Contingency Plan shall be due within (30) days of EPA's approval of the Final RD Report. The final Contingency Plan shall be submitted 30 days prior to the start of construction, in accordance with the approved construction schedule.

Task 5 Construction Quality Assurance Project Plan

Westinghouse shall submit a Construction Quality Assurance Project Plan (CQAPP) which describes the Site specific components of the quality assurance program

which shall ensure that the completed project meets or exceeds all design criteria, plans, and specifications.

The CQAPP shall contain, at a minimum, the following elements:

1. Responsibilities and authorities of all organizations and key personnel involved in the design and construction of the Remedial Action.
2. Qualifications of the designated Quality Assurance Official to demonstrate he/she possesses the training and experience necessary to fulfill his/her identified responsibilities.
3. Protocols for sampling and testing used to monitor construction.
4. Identification of proposed quality assurance sampling activities including the sample size, locations, frequency of testing, acceptance and rejection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation. A description of the provisions for final storage of all records consistent with the requirements of the Work Plan shall be included.
5. Reporting requirements for CQA activities shall be described in detail in the CQA project plan. This shall include such items as daily summary reports, inspection data sheets, problem identification and

corrective measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records shall be presented in the CQA project plan.

COMPLETION DATE: The draft CQAPP shall be submitted not later than 30 days after EPA approves the final design. The final CQAPP shall be submitted 30 days prior to the start of construction in accordance with the approved construction schedule.

Task 6 Remedial Action Work Plan

Westinghouse shall submit a Remedial Action Work Plan which includes a detailed description of the remediation and construction activities. The RA Work Plan shall include a project schedule for each major activity and submission of deliverables generated during the Remedial Action. Westinghouse shall implement the Remedial Action as detailed in the approved Final Design. The following activities shall also be included in the Remedial Action Work Plan Schedule:

A. Preconstruction inspection and meeting:

Westinghouse shall participate with the EPA in a preconstruction inspection and meeting to:

- a. Review methods for documenting and reporting inspection data;
- b. Review methods for distributing and storing documents and reports;
- c. Review work area security and safety protocol;
- d. Discuss any appropriate modifications of the construction quality assurance project plan to ensure that site-specific considerations are addressed; and
- e. Conduct a Site walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by EPA and minutes shall be transmitted to all parties.

B. Prefinal inspection:

Within 10 days after Respondents make a preliminary determination that construction is complete, Westinghouse shall notify EPA for the purposes of conducting a prefinal inspection. The prefinal inspection shall consist of a walk-through inspection of the entire facility with EPA. The inspection is to determine whether the project is complete and consistent with the

contract documents and the Remedial Action. Any outstanding construction items discovered during the inspection shall be identified and noted.

Additionally, treatment equipment shall be operationally tested by Westinghouse.

Westinghouse shall certify in writing to EPA that the equipment has performed to meet the specifications required by EPA. Retesting shall be conducted where deficiencies are revealed. The prefinal inspection report shall outline the outstanding construction items, actions required to resolve items, completion date for these items, and a proposed date for final inspection.

C. Final inspection:

Within 10 days after completion of any work identified in the prefinal inspection report, Westinghouse shall notify the EPA and the State for the purposes of conducting a final inspection. The final inspection shall consist of a walk-through inspection of the facility by EPA and Westinghouse. The prefinal inspection report shall be used as a checklist with the final inspection focusing on the outstanding construction items identified in the prefinal inspection. Westinghouse shall confirm to EPA in writing that outstanding items have been resolved.

COMPLETION DATE: Westinghouse shall submit a draft Remedial Action Work Plan no later than 60 days after EPA approval of the Final Design.

Task 7 Soil Remediation

Soil Remediation Implementation and Completion Report -
Westinghouse shall implement soil remediation as detailed in the RD Report and in accordance with the EPA approved schedule contained therein. Soil sampling conducted during and subsequent to the excavation work shall be conducted in accordance with the approved QAPP and FSP.

Within 10 days after Westinghouse makes a preliminary determination that construction is complete, Westinghouse shall notify EPA for the purposes of conducting a final inspection as outlined in Task 6b and 6c.

Westinghouse shall submit a **Soil Remediation Completion Report** documenting and certifying the completion of the necessary activities for achieving the requirements of Section II.B. of this SOW. The report shall document that the soil remediation is consistent with the design specifications and shall include the results of the verification sampling analyses conducted during and following the excavation work. The report shall

include documentation of the offsite transport and incineration of the excavated soils, installation of the asphalt cap over areas where contaminated soil will remain and confirmation to EPA that outstanding items noted during the final inspection have been resolved.

The Soil Remediation Completion Report shall include a schedule for submittal of documentation of all laboratory analyses conducted on all soil samples collected at the Site in accordance with "Laboratory Documentation Requirements For Data Validation", Region IX, January 1990, Document Control Number 9QA-07-90.

Westinghouse shall also provide to EPA in writing a certification from a registered professional engineer, and from Westinghouse's Project Coordinator, that the Soil Remedial Action has been constructed in accordance with the soil remediation design and specifications approved by EPA. The Report shall also include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a corporate officer of Westinghouse and by a professional engineer:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is

true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

COMPLETION DATE: (i) The Soil Remediation Completion Report shall be due within thirty (30) days following the completion of all soil excavation activities. (ii) The lab analysis documentation shall be submitted in accordance with the EPA approved schedule contained in the Completion Report.

Task 8 Groundwater Remediation

- a. **Construct Extraction and Treatment System -**
Westinghouse shall implement the groundwater remediation activities as detailed in the Final RD Report and in accordance with the EPA approved schedule contained therein. Additionally, equipment shall be operationally tested by Westinghouse. Westinghouse shall submit a report to EPA documenting and certifying the completion of construction of extraction wells, conveyance piping and treatment system in accordance with the RD Report. The report shall also contain the first three weeks of monitoring data after startup

of the system and an evaluation of the systems initial performance with respect to gradient control, plume capture and discharge requirements. Westinghouse shall provide to EPA in writing a certification from a registered professional engineer, and from Westinghouse's Project Coordinator, that the Remedial Action has been constructed in accordance with the groundwater remediation design and specifications approved by EPA. The Report shall also include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a corporate officer of Westinghouse and by a professional engineer:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

COMPLETION DATE: The Extraction and Treatment System Completion Report shall be due within thirty (30) days of completion of the construction of the final extraction and treatment system.

b. Performance Standards Assessment Plan - evaluates effectiveness of Extraction and Treatment System -
Submit a report for EPA approval which evaluates the effectiveness of the final extraction and treatment system. Such an evaluation shall include, but not be limited to, an estimation of the capture zone of the extraction wells, establishment of the cones of depression by field measurements, and presentation of chemical monitoring data. A map shall be included that superimposes the capture zone on the pollutant plume for all affected aquifer zones. Specific modifications to the system and an implementation time schedule shall be proposed in the event that the system is demonstrated not to be effective in containing and removing the ground water contaminants.

COMPLETION DATE: The Performance Standards Assessment Plan which will evaluate the final extraction and treatment system shall be due two years from EPA approval of the document submitted for Task 8a which verifies construction completion of the final groundwater extraction and treatment system.

c. Groundwater Extraction and Treatment Operation and Maintenance Plan - Westinghouse shall submit an Operation and Maintenance Plan to cover the long term

operation and maintenance of the groundwater extraction and treatment system. The plan shall address both the long-term extraction and treatment necessary for achieving groundwater cleanup standards and the component of extraction and treatment that addresses permanent containment of the groundwater source area as defined in Section 6.2.2.2 of the ROD. This plan shall include a description of potential operating problems and how these problems would be addressed, a schedule for revising the Field Sampling Plan for long term extraction and treatment, and a schedule for implementing any necessary updates to the QAPP. This plan shall include the following elements:

1. Description of normal operation and maintenance;
 - a. Description of tasks for operation;
 - b. Description of tasks for maintenance;
 - c. Description of prescribed treatment or operation conditions; and
 - d. Schedule showing frequency of each O&M task.
2. Description of potential alteration problems;
 - a. Description and analysis of potential alteration problems;
 - b. Sources of information regarding problems; and

- c. Common and/or anticipated remedies.
-
- 3. Description of routine monitoring and laboratory testing;
 - a. Description of monitoring tasks;
 - b. Description of required data collection, laboratory tests and their interpretation;
 - c. Required quality assurance, and quality control;
 - d. Schedule of monitoring frequency and procedures for a petition to EPA to reduce the frequency of or discontinue monitoring; and
 - e. Description of verification sampling procedures if Cleanup or Performance Standards are exceeded in routine monitoring.
-
- 4. Description of alternate O&M;
 - a. Should systems fail, alternate procedures to prevent release or threatened releases of hazardous substances, pollutants or contaminants which may endanger public health and the environment or exceed performance standards; and
 - b. Analysis of vulnerability and additional resource requirement should a failure occur.

5. Corrective Action;
 - a. Description of corrective action to be implemented in the event that cleanup or performance standards are exceeded; and
 - b. Schedule for implementing these corrective actions.
6. Safety plan;
 - a. Description of precautions, of necessary equipment, etc., for Site personnel; and
 - b. Safety tasks required in event of systems failure.
7. Description of equipment; and
 - a. Equipment identification;
 - b. Installation of monitoring components;
 - c. Maintenance of Site equipment; and
 - d. Replacement schedule for equipment and installed components.
8. Records and reporting mechanisms required.
 - a. Daily operating logs;
 - b. Laboratory records;
 - c. Records for operating costs;
 - d. Mechanism for reporting emergencies;
 - e. Personnel and maintenance records; and

f. Monthly/annual reports to State agencies.

COMPLETION DATE: The Operation and Maintenance Plan shall be due two years from EPA approval of Task 8a., simultaneous with completion date for Task 8b.

d. **Proposal for Curtailment of Pumping** - If monitoring data show that cleanup standards identified in the Record of Decision have been achieved, Westinghouse may submit a report for EPA approval containing a proposal for curtailing pumping from groundwater extraction well(s) at the Site and the criteria used to justify such curtailment. This report shall include data to show that contaminant levels have stabilized or are stabilizing at or below the cleanup standards, and that the potential for contaminant levels rising above cleanup standards is minimal. This proposal shall include a proposal for a groundwater monitoring program that is capable of verifying the maintenance of cleanup standards in the aquifers, and a plan for reactivating the extraction system if monitoring reveals that contaminant levels rise above cleanup standards. This report shall also include an evaluation of the potential for contaminants to migrate downwards from the affected aquifers to deeper water-bearing units. Curtailment of pumping in any of the

Site's extraction wells will require EPA approval.

Additionally, for the situation where Westinghouse has concluded that the all performance standards in the ROD have been met, Westinghouse may pursue EPA certification pursuant to Section XVIII (Certification of Completion) of the UAO concurrent with this task.

COMPLETION DATE: When Westinghouse concludes that curtailment of pumping is appropriate.

e. **Curtailment of Pumping** - Westinghouse shall implement task 8d as approved by EPA and submit a report to EPA documenting completion of all tasks identified in the proposal submitted under Task 8d as approved by EPA.

COMPLETION DATE: The report documenting curtailment of pumping shall be due within thirty (30) days after pumping has been curtailed in Task 8d as approved by EPA.

Task 9 Notification and Sample Plan - Building 21

a. **Notification** - Westinghouse shall notify EPA of any future intention to cease operations in, abandon,

demolish, or perform construction that disturbs existing floors or foundation in (including partial demolition or construction) Building 21 (see Facility map, Figure 1).

COMPLETION DATE: At least ninety (90) days in advance of taking any action described above.

b. **Sample Plan** - Westinghouse shall submit for EPA approval a sample plan for collection and analysis of soil and/or concrete samples, as appropriate. The plan shall be developed such that sampling data generated may be used to evaluate potential risks associated with any exposed soils or removed concrete due to activities outlined in 9a above.

COMPLETION DATE: The Sample Plan for Building 21 shall be due concurrent with notification in Task 9a.

Task 10 Performance Monitoring of Groundwater Extraction and Treatment System

a. **Proposed Revisions to Field Sampling Plan ("FSP) for Groundwater** - Westinghouse shall submit proposed revisions to the FSP for a groundwater monitoring program that will

satisfy the requirements of Section II.A.5 (Performance Monitoring of Extraction System) of this SOW. This FSP shall be prepared in accordance with the EPA guidances cited in Section XII (Quality Assurance, Sampling and Data Analysis) of the UAO for RA and the approved Quality Assurance Project Plan ("QAPP") developed during RD. This plan shall include a schedule for quarterly groundwater sampling and for quarterly reporting of analytical results that conforms with the requirements for progress reporting in Task 1 of this SOW.

The revised FSP shall include a schedule for submittal of documentation of all laboratory analyses conducted on all groundwater samples collected at the Site. The submitted documentation shall conform to the requirements delineated in "Laboratory Documentation Requirements For Data Validation", Region IX, January 1990, Document Control Number 9QA-07-90.

COMPLETION DATE: The proposed revisions to the FSP shall be due within ninety (90) days following EPA certification that construction of the groundwater extraction and treatment system is complete. (Task 8a.)

b. **Submit Revised FSP** - Westinghouse shall submit a final revised FSP that incorporates EPA's review comments. Any subsequent revisions to the performance monitoring program, must be approved by EPA in writing.

COMPLETION DATE: (i) The revised FSP shall be due within thirty (30) days of receipt of EPA comments to the proposed FSP. (ii) Lab analysis documentation shall be submitted in accordance with the schedule approved by EPA and contained in the FSP.

c. **Implement Performance Monitoring of Groundwater Extraction and Treatment System** - Westinghouse shall implement performance monitoring of the groundwater extraction and treatment system under the final approved FSP.

IMPLEMENTATION DATE: Performance monitoring shall commence during the quarter following EPA's approval of the final FSP (Task 10b) such that analytical results may be reported in the Quarterly Progress Report for that quarter. Quarterly periods are defined in Task 1 (Progress Reporting) above.

Task 11 Five-Year Groundwater Status Reports

Westinghouse shall submit a report to EPA containing an

evaluation of the effectiveness of the groundwater extraction and treatment system including, if necessary, additional recommended measures to achieve final cleanup objectives and standards. If additional measures are proposed, the tasks and time schedule necessary to implement any additional final cleanup measures shall be included in the report.

This report shall also contain a section on the current status of groundwater remediation research with a focus on cleanup of aquifers where DNAPL and/or PCB problems are known to exist. This section shall include an evaluation of potential applications of new technologies to the Westinghouse groundwater source area.

Additionally, Westinghouse shall include in the report an evaluation of the asphalt cap over the areas of the Site where PCB-contaminated soils remain. If maintenance and/or repair is needed, the tasks and time schedule necessary to implement such work shall be included in the report.

COMPLETION DATE: Every five years commencing with the date of Westinghouse's initiation of Task 8a.

(Construct Extraction and Treatment System).

IV. SUBMISSION SUMMARY

This summary presents the information reporting requirements contained in the Westinghouse RD/RA Scope of Work.

Task	Submission	Due Date
Task 1	Progress Reports	On the schedule described under Task 2 in Section II of this SOW
Task 2a	Proposed Institutional Controls Work Plan	Within thirty days from effective date of the UAO
Task 2b	Final Institutional Controls Work Plan	Within thirty days from receipt of EPA comments to Proposed Work Plan
Task 2c	Documentation of Institutional Controls in place	Within thirty days from completion of activities contained in the Final Institutional Controls Work Plan in accordance with its schedule
Task 3	Health and Safety Plan	Within thirty days from EPA's approval of the Final RD Report
Task 4	Draft Contingency Plan	Within thirty days from EPA's approval of the Final RD Report
	Final Contingency Plan	Within thirty days prior to the start of construction
Task 5	Draft Construction Quality Assurance Project Plan	Within thirty days from EPA's approval of the Final RD Report
	Final Construction Quality Assurance Project Plan	Within thirty days prior to the start of construction

Task 6	Remedial Action Work Plan	Within sixty days from EPA's approval of the Final RD Report
	Pre-Construction Inspection	Fifteen days after award of Soil RA Contractor
	Initiate Construction of Remedial Action	Fifteen days after Pre-Construction Inspection and meeting
	Prefinal Inspection	No later than 10 days after completion of construction
	Prefinal Inspection Report	Ten days after completion of prefinal inspection
Task 7	(i) Soil Remediation Completion Report	Within thirty days of completion of all soil remediation activities
	(ii) Lab analysis documentation for soil samples	In accordance with EPA approved schedule in Soil Remediation Completion Report
Task 8a	Extraction and Treatment System Construction Completion Report	Within thirty days of completion of construction of the extraction and treatment system
Task 8b	Performance Standards Assessment Plan	Two years from EPA approval of Task 8a
Task 8c	Groundwater Extraction Treatment Operation and Maintenance Plan	Two years from EPA and approval of Task 8a
Task 8d	Pumping Curtailment Proposal	When Westinghouse concludes that curtailment is appropriate
Task 8e	Report Documenting curtailment of pumping	Within thirty days from completion of pumping curtailment as approved by EPA

Task 9a	Notification of Changes to Building 21	At least 90 days prior to any changes as described in SOW
Task 9b	Sample Plan - Building 21	Concurrent with notification in Task 9a
Task 10a	Proposed Revisions to Groundwater FSP	Within ninety days following EPA certification of extraction and treatment system construction completion
Task 10b	(i) Revised FSP	Within thirty days from Receipt of EPA comments to proposed FSP
	(ii) Lab analysis documentation for groundwater samples	In accordance with EPA approved schedule in FSP
Task 11	Five-year Groundwater Status Report	Every five years commencing with EPA approval of Final Remedial Design Report

Table 1
Groundwater Cleanup Standards

<u>Contaminant</u>	<u>Standard (ppb)</u>
PCB*.....	0.5
TCB.....	9
1,2-DCB.....	600
1,3-DCB.....	130
1,4-DCB.....	5
CB.....	30
Benzene.....	1
Toluene.....	1,000
Ethylbenzene.....	700
Xylenes.....	1,750
1,1,1-TCA.....	200
TCE.....	5
1,1-DCE.....	6
1,1-DCA.....	5
1,2-DCA.....	0.5
cis-1,2-DCE.....	6

* A waiver of the requirement to meet the standard for PCB has been invoked for the groundwater source area where dense non-aqueous phase liquids containing PCB are detected. This source area is defined in Section 6.2.2.2 of the October 16, 1991 Record of Decision. The Record of Decision requires that chemical migration from the source area be hydraulically contained and outside of this source area, the standard for PCB must be met throughout the affected aquifers.